P. Richard Hahn's Top 25 Books on Statistics, Causal Inference, Statistical Computing, Machine Learning and Data Science

March 2021

Statistics

Shalizi, *Advanced Data Analysis from an Elementary Point of View*
Wasserman, *All of Statistics*
Schervish, *Theory of Statistics*
Degroot and Schervish, *Probability and Statistics*
Freedman, *Statistical Models*
Parmigiani and Inoue (with contributions by Lopes), *Decision Theory: Principles and Approaches*
Parmigiani, *Modeling in Medical Decision Making*
Hoff, *A First Course in Bayesian Statistical Methods*

Causal Inference

Hernan and Robins, *What If?*
Van der Weele, *Explanation in Causal Inference*
Pearl, *Causal Inference and Statistics*
Imbens and Rubin, *Causal Inference for Statistics,* Social, *and Biomedical Sciences*
Rubin, *Statistical Analysis with Missing Data*
Manski, *Identification for Prediction and Decision*

Statistical Computing

Gamerman and Lopes, *Markov Chain Monte Carlo: Stochastic Simulation for Bayesian Inference*
Liu, *Monte Carlo Strategies in Scientific Computing*
Gentle, *Computational Statistics*

Machine Learning

Bishop, *Machine Learning and Pattern Recognition*
Murphy, *Machine Learning a Probabilistic Approach (first edition)*
Wasserman, *All of Nonparametric Statistics*
Scholkopf and Smola, *Learning with Kernels*
Cesa-Bianchi and Lugosi, *Prediction, Learning and Games*

Data Science

Allenby, Rossi and McCulloch, *Bayesian Statistics and Marketing*
Noland and Lang, *Data Science in R*
Molnar, *Interpretable Machine Learning*